

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undiscovered Formation McKen County Lee

Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 3-12-16-1977

Company Sinclair Oil & Gas Co. Lease J.R. Phillips 'A' Well No. 8

Unit X Sec. 31 Twp. 19S Rge. 37E Purchaser None

Casing 54 Wt. \_\_\_\_\_ I.D. \_\_\_\_\_ Set at 9,532 Perf. 9,572 To 9,572

Tubing 2 Wt. 4.75 I.D. 1.995 Set at 9,530 Perf. 9,532 To 9,572

Gas Pay: From 9,532 To 9,572 L 9,532 xG 0.635 -GL 6,000 Bar.Press. 13.2

Producing Thru: Casing \_\_\_\_\_ Tubing Tubing Type Well Single

Date of Completion: 3-9-59 Packer 9,403 Single-Bradenhead-G. G. or G.O. Dual \_\_\_\_\_ Reservoir Temp. \_\_\_\_\_

OBSERVED DATA

Tested Through (Summit) (Meter) Type Taps Flg.

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.	A	2.000	640	7.0	92	2005	72	Packer		72
2.	A	"	577	17.5	92	1804	73			1
3.	A	"	500	27.0	96	1704	73			1
4.	A	"	502	31.0	70	1400	72			1
5.	A	"	572	34.2	82	1207	74			24

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wPF}}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	25.52	60.447	673.2	0.9704	0.9721	1.043	1.751
2.	"	101.609	570.2	0.9804	0.9721	1.040	2.977
3.	"	124.137	503.2	0.9830	0.9721	1.031	2.304
4.	"	131.000	502.2	0.9831	0.9721	1.031	2.190
5.	"	144.024	403.2	0.9804	0.9721	1.031	3.776

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 41.714 cf/bbl.

Gravity of Liquid Hydrocarbons 70 deg.

F<sub>c</sub> 9.936 (1-e<sup>-s</sup>) 0.341

Specific Gravity Separator Gas 0.635

Specific Gravity Flowing Fluid 0.604

P<sub>c</sub> 2334.2 P<sub>c</sub> 6422.2

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	2005.2	4020.8	17.338	300.61	182.51	4020.8	1817.2	2005.2	80.8
2.	1804.2	3255.4	26.004	676.25	207.05	3255.4	2500.0	1804.2	77.2
3.	1704.2	2904.4	32.040	1028.52	207.04	2904.4	2700.0	1704.2	75.2
4.	1400.2	1960.5	31.077	965.74	120.05	1960.5	3112.3	1400.2	72.0
5.	1207.2	1457.3	37.717	1422.57	405.20	1534.7	3400.5	1207.2	65.1

Absolute Potential: 4,948 MCFPD; n .50

COMPANY Sinclair Oil & Gas Co.

ADDRESS Box 1470 Midland Tex.

AGENT and TITLE W.R. Lord Box 2421 Hobbs N.M.

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

REMARKS

## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

- $Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.
- $P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia
- $P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- $P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if  
flowing through casing.) psia
- $P_f$  = Meter pressure, psia.
- $h_w$  = Differential meter pressure, inches water.
- $F_g$  = Gravity correction factor.
- $F_t$  = Flowing temperature correction factor.
- $F_{pv}$  = Supercompressibility factor.
- $n$  = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .